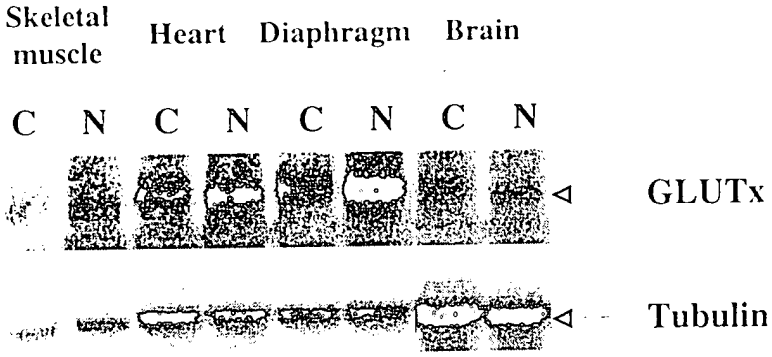

Skeletal muscle
Heart
Diaphragm
Brain
C N C N C N C N
GLUTx
Tubulin

FIG. 1

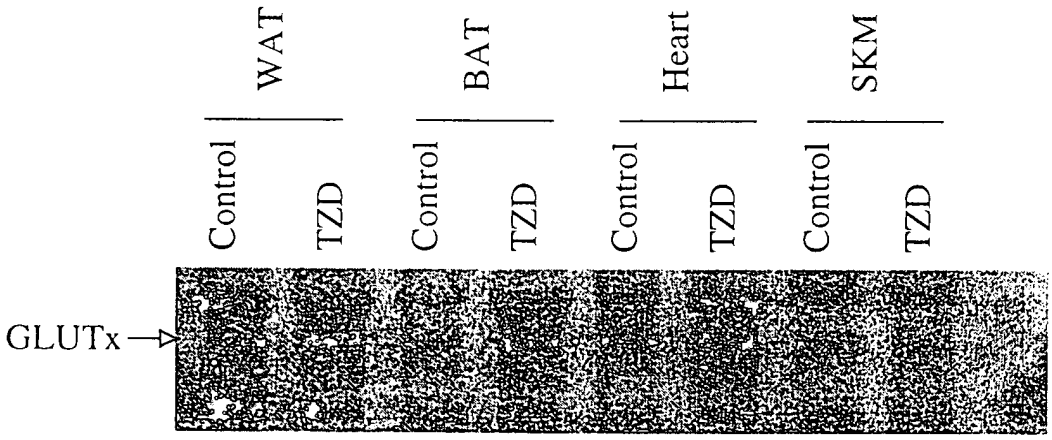

WAT
BAT
Heart
SKM
Control
TZD
Control
TZD
Control
TZD
Control
TZD
GLUTx

FIG. 2

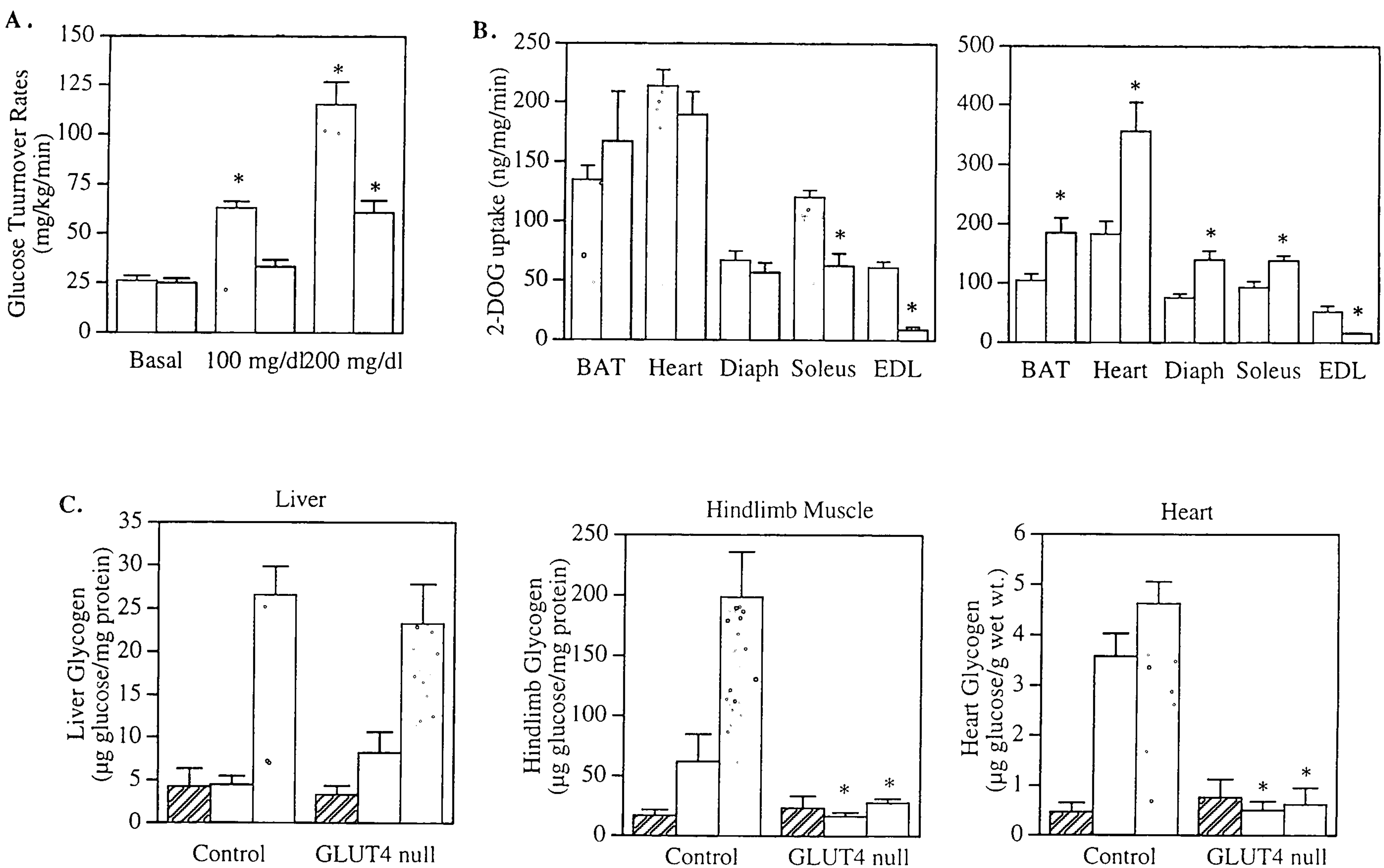

A.
Glucose Tuurnover Rates (mg/kg/min)
150
125
100
75
50
25
0
Basal
100 mg/dl
200 mg/dl
*
B.
2-DOG uptake (ng/mg/min)
250
200
150
100
50
0
500
400
300
200
100
BAT
Heart
Diaph
Soleus
EDL
C.
Liver
Liver Glycogen (µg glucose/mg protein)
35
30
25
20
15
10
5
0
Control
GLUT4 null
Hindlimb Muscle
Hindlimb Glycogen (µg glucose/mg protein)
Heart
Heart Glycogen (µg glucose/g wet wt.)
6
5
4
3
2
1

FIG. 3

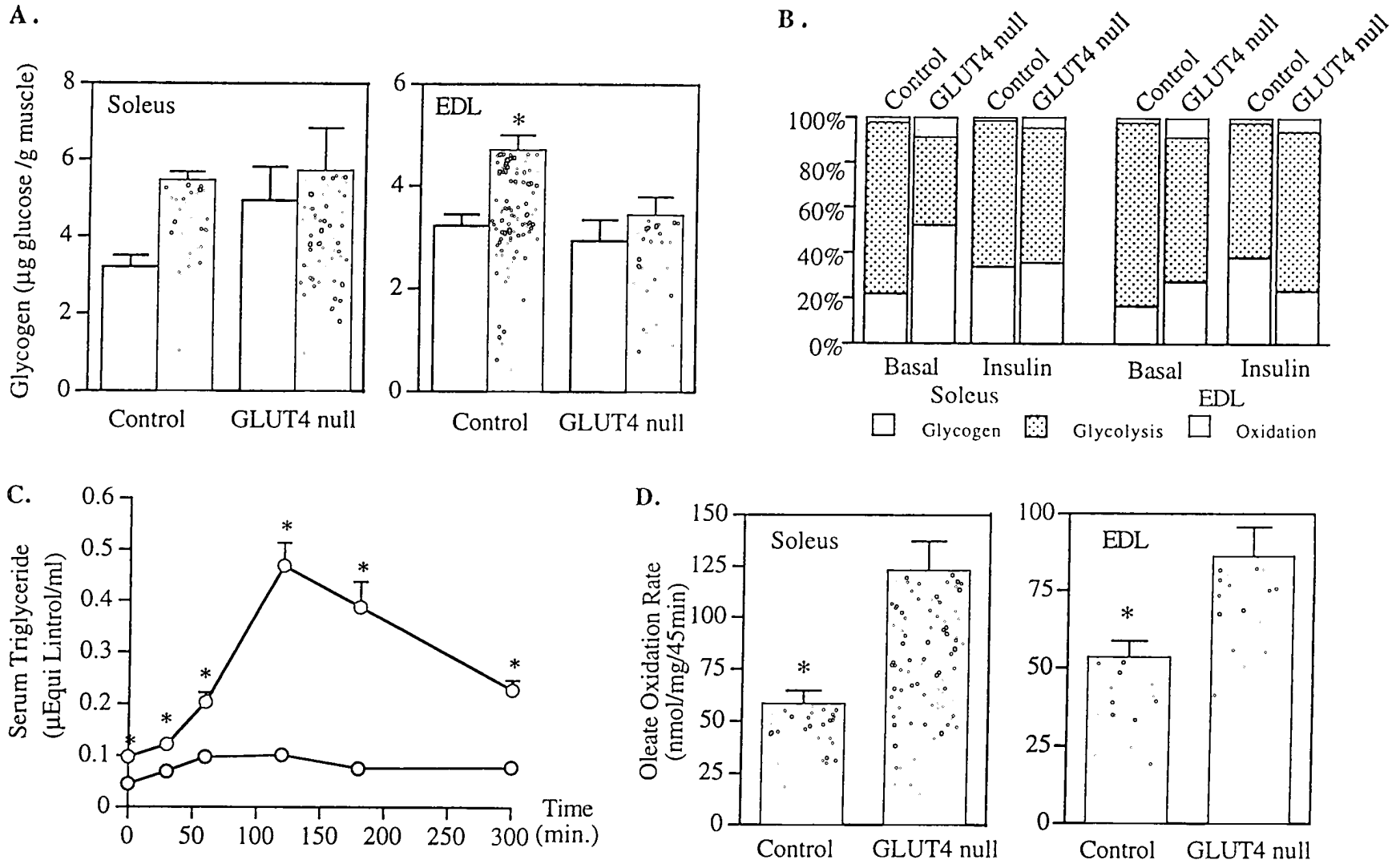
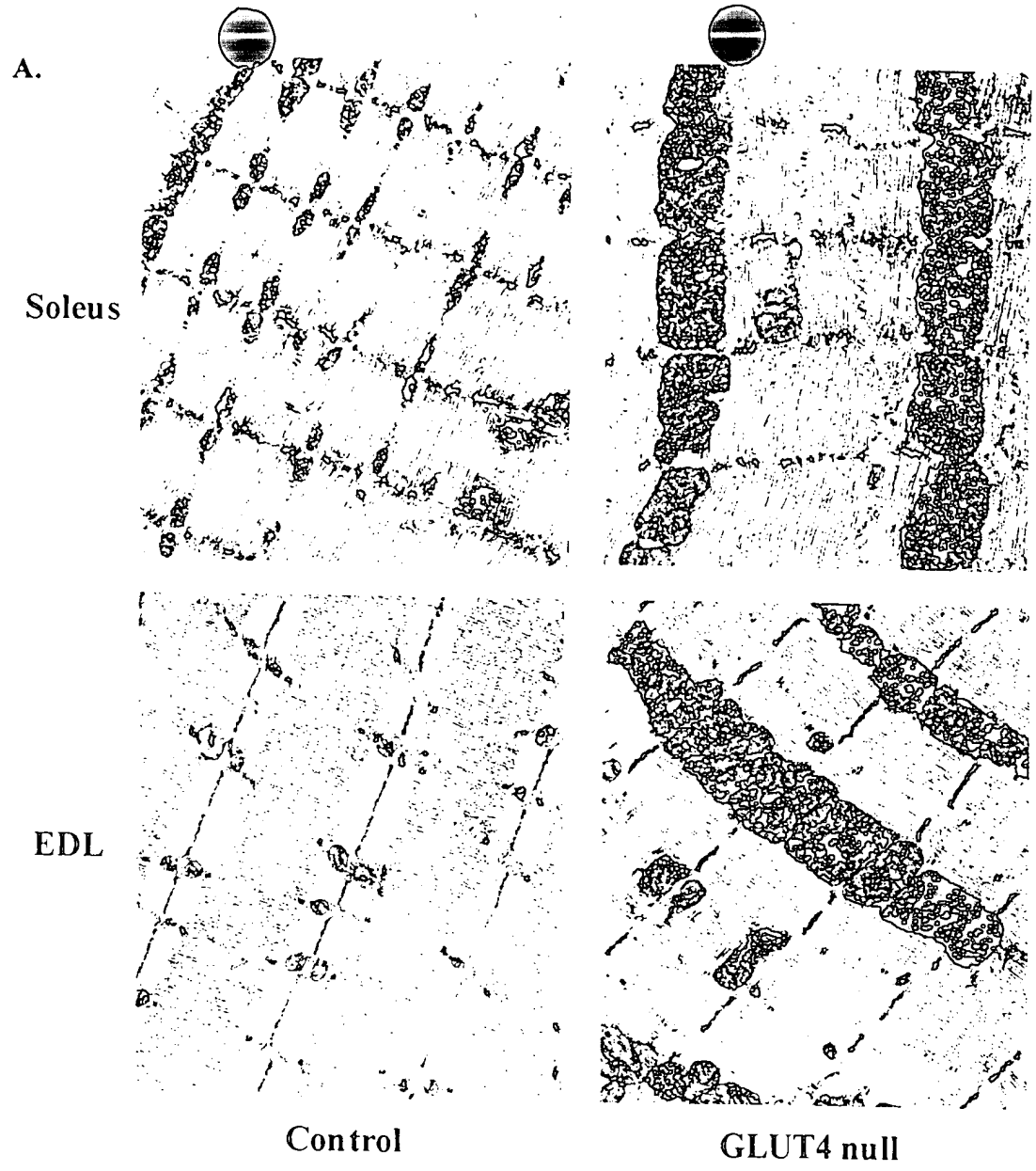
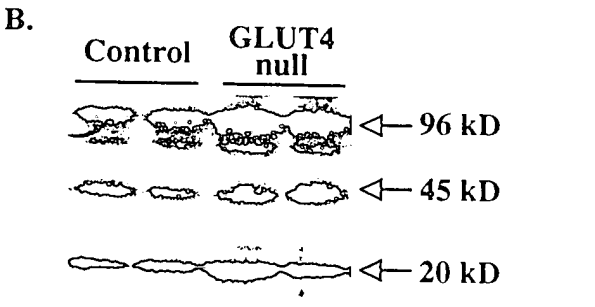
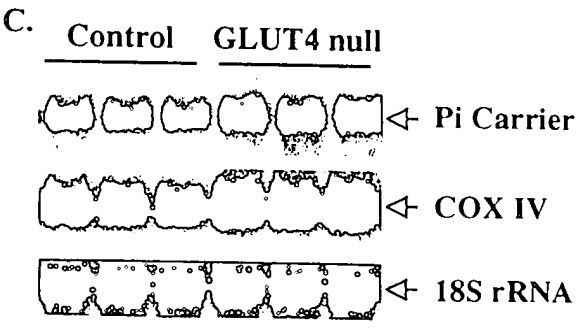


FIG. 4


A.
Soleus
EDL
Control
GLUT4 null


B.
Control
GLUT4 null
96 kD
45 kD
20 kD


C.
Control
GLUT4 null
Pi Carrier
COX IV
18S rRNA

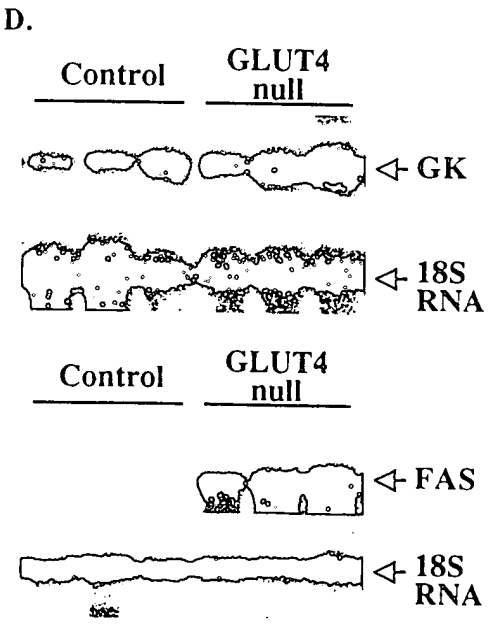

D.
Control
GLUT4 null
GK
18S RNA
Control
GLUT4 null
FAS
18S RNA

FIG. 5

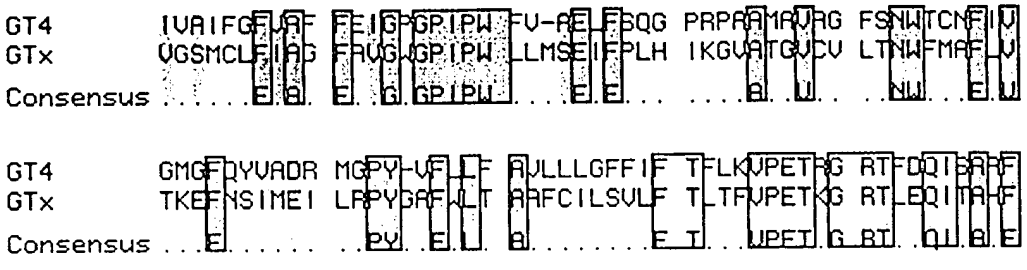

GT4
GTx
Consensus
GT4
GTx
Consensus

FIG. 6

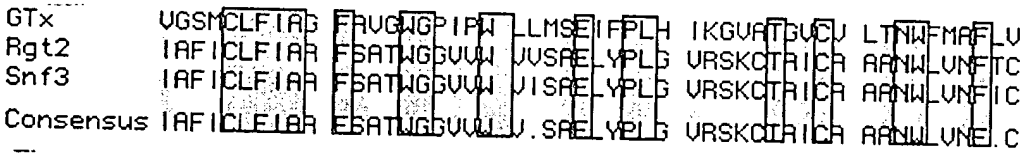

GTx
Rgt2
Snf3
Consensus

FIG. 7

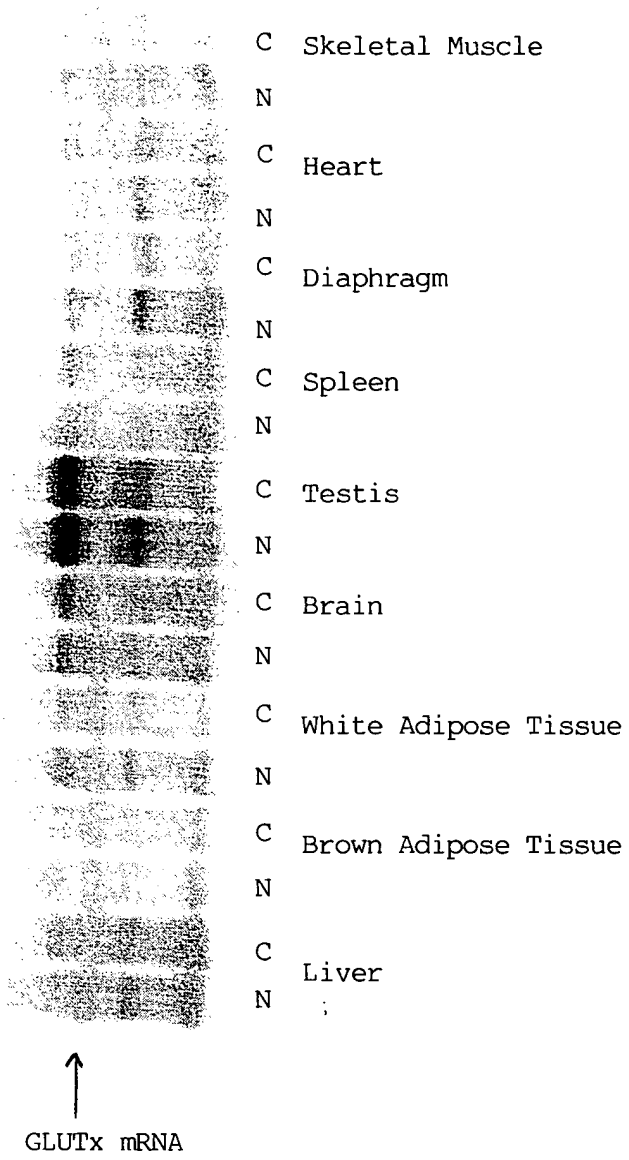

C Skeletal Muscle
N
C Heart
N
C Diaphragm
N
C Spleen
N
C Testis
N
C Brain
N
C White Adipose Tissue
N
C Brown Adipose Tissue
N
C Liver
N
GLUTx mRNA

FIGURE 8

HUMAN nucleic acid sequence

AACTTGCGGCCGCCGCGTCTTCCTCGCCGCCTTCGCCGCTGCCCTG
GGCCCACTCAGCTTCGGCTTCGCGCTCGGCTACAGCTCCCCGGCCA
TCCCTAGCCTGCAGCGCGCCGCGCCCCCGGCCCCGCGCCTGGACG
ACGCCGCCGCCTCCTGGTTCGGGGCTGTCGTGACCCTGGGTGCCG
CGGCGGGGGGAGTGCTGGGCGGCTGGCTGGTGGACCGCGCCGGGC
GCAAGCTGAGCCTCTTGCTGTGCTCCGTGCCCTTCGTGGCCGGCTT
TGCCGTCATCACCGCGGCCCAGGACGTGTGGATGCTGCTGGGGGG
CCGCCTCCTCACCGGCCTGGCCTGCGGTGTTGCCTCCCTAGTGGCC
CCGGTCTACATCTCCGAAATCGCCTACCCAGCAGTCCGGGGGTTGC
TCGGCTCCTGTGTGCAGCTAATGGTCGTCGTCGGCATCCTCCTGGC
CTACCTGGCAGGCTGGGTGCTGGAGTGGCGCTGGCTGGCTGTGCT
GGGCTGCGTGCCCCCCTCCCTCATGCTGCTTCTCATGTGCTTCATG
CCCGAGACCCCGCGCTTCCTGCTGACTCAGCACAGGCGCCAGGAG
GCCATCGCCCTGCGGTTCCTGTGGGGCTCCGAGCAGGGCTGGGAA
GACCCCCCCATCGGGGCTGAGCAGAGCTTTCACCTGGCCCTGCTGC
GGCAGCCCGGCATCTACAAGCCCTTCATCATCGGTGTCTCCCTGAT
GGCCTTCCAGCAGCTGTCGGGGGTCAACGCCGTCATGTTCTATGCA
GAGACCATCTTTGAAGAGGCCAAGTTCAAGGACAGCAGCCTGGCC
TCGGTCGTCGTGGGTGTCATCCAGGTGCTGTTCACAGCTGTGGCG
GCTCTCATCATGGACAGAGCAGGGCGGAGGCTGCTCCTGGTCTTG
TCAGGTGTGGTCATGGTGTTCAGCACGAGTGCCTTCGGCGCCTACT
TCAAGCTGACCCAGGGTGGCCCTGGCAACTCCTCGCACGTGGCCAT
CTCGGCGCCTGTCTCTGCACAGCCTGTTGATGCCAGCGTGGGGCT
GGCCTGGCTGGCCGTGGGCAGCATGTGCCTCTTCATCGCCGGCTT
TGCGGTGGGCTGGGGGCCCATCCCCTGGCTCCTCATGTCAGAGAT
CTTCCCTCTGCATGTCAAGGGCGTGGCGACAGGCATCTGCGTCCTC
ACCAACTGGCTCATGGCCTTTCTCGTGACCAAGGAGTTCAGCAGCC

FIG. 9

TCATGGAGGTCCTCAGGCCCTATGGAGCCTTCTGGCTTGCCTCCGC
TTTCTGCATCTTCAGTGTCCTTTTCACTTTGTTCTGTGTCCCTGAA
ACTAAAGGAAAGACTCTGGAACAAATCACAGCCCATTTTGAGGGGC
GATGACAGCCACTCACTAGGGGATGGAGCAAGCCTGTGACTCCAA
GCTGGGCCCAAGCCCAGAGCCCCTGCCTGCCCCAGGGGAGCCAGA
ATCCAGCCCCTTGGAGCCTTGGTCTGCAGGGTCCCTCCTTCCTGTC
ATGCTCCCTCCAGCCCATGACCCGGGGCTAGGAGGCTCACTGCCTC
CTGTTCCAGCTCCTGCTGCTGCTCTGAGGACTCAGGAACACCTTCG
AGCTTTGCAGACCTGCGGTCAGCCCTCCATGCGCAAGACTAAAGCA
GCGGAAGAGGAGGTGGGCCTCTAGGATCTTTGTCTTCTGGCTGGA
GGTGCTTTTGNAGGTTGGGTGCTGGGCATTCGGTCGCTCCTCTCAC
GCGGCTGCCTTATCGGGAAGGAAATTTGTTTGCCAAATAAAGACGT
GACACAGAAAATCAAAAAAAAAAAAAAAAAAATTCC

FIG. 9 cont.

HUMAN amino acid sequence

RRVFLAAFAAALGPLSFGFALGYSSPAIPSLQRAAPPAPRLDDAAASW
FGAVVTLGAAAGGVLGGWLVDRAGRKLSLLLCSVPFVAGFAVITAAQ
DVWMLLGGRLLTGLACGVASLVAPVYISEIAYPAVRGLLGSCVQLMV
VVGILLAYLAGWVLEWRWLAVLGCVPPSLMLLLMCFMPETPRFLLTQ
HRRQEAIALRFLWGSEQGWEDPPIGAEQSFHLALLRQPGIYKPFIIGV
SLMAFQQLSGVNAVMFYAETIFEEAKFKDSSLASVVVGVIQVLFTAVA
ALIMDRAGRRLLLVLSGVVMVFSTSAFGAYFKLTQGGPGNSSHVAIS
APVSAQPVDASVGLAWLAVGSMCLFIAGFAVGWGPIPWLLMSEIFPL
HVKGVATGICVLTNWLMAFLVTKEFSSLMEVLRPYGAFWLASAFCIF
SVLFTLFCVPETKGKTLEQITAHFEGR*QPLTRGWSKPVTPSWAQAQ
SPCLPQGSQNPAPWSLGLQGPSFLSCSLQPMTRG

FIG. 10

RAT GLUTx nucleic acid sequence (1037)

TGGCGGCCGCTCTAGAACTAGTGGATCCCCCGGGCTGCAGGAATTCGGCAC
GAGCTGGTGCCCATCTCCGCAGAGCCTGCTGATGTTCACCTGGGGCTGGCCT
GGCTGGCTGTAGGCAGCATGTGCCTCTTCATCGCTGGTTTTGCAGTAGGCTG
GGGACCCATCCCCTGGCTCCTCATGTCAGAGATCTTCCCTCTGCACATCAAG
GGTGTGGCTACCGGCGTCTGTGTCCTCACCAACTGGTTCATGGCCTTTCTGG
TGACCAAAGAGTTTAACAGCATCATGGAGATCCTCAGACCCTACGGCGCCTT
CTGGCTCACCGCTGCCTTCTGTATCCTCAGCGTCCTTTTCACGCTCACCTTTG
TCCCTGAGACTAAAGGCAGGACTCTGGAACAAATCACAGCCCATTTGAGGGA
CGGTGACGGACCCCTTTCTGTGACTGGCAGCCCTGAGCTGAGCTGGCTTCGG
GTTTCAAAAGGAGTGGAGTGGCCTCAGTGACCACAGTTTGAGCCCAGGGGC
CCCCTGACTCCTCAGATTTCCGGGCCAGCTTTGTCCAGATCTCAACCCAGATT
CCACACCATGAGCTTCACCAGATTCTGAGGCTCNTGNAGCCTGCTGCACACA
CAGCACATTTGCGGGCTCCTGGCTCTAGTGCTCTGGCTGGGCATCTTTGGGG
TGCTTGGTCCTAAGCAACTGCCCATACCTCACTTGACTGGGGGATGAGAAAG
GGACTTAGCCACATAAGATTTGGGCTCAGAAACAAGGTCAGGTGAGTCCAG
GAAGAAAAGAGAATGGTTCTTGTCTTGTCAACCAAGTCCTTCTCAGAGTGCC
AAAGACCTCCGGATTCACCTTGGGGTTAGCCAGCTTACCCATCACTTACAGG
TTCTCTCCAACTCTCAGCTGGTCTCAGTGTCCTGGATCATTAGTCACCAGGTC
TTGTTGAGTTTCAGAAAAATAAAAGGCCTCTTTCCGTTCAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAACTCGAGGGGGGGCC

FIG. 11

RAT GLUTx amino acid sequence (165)

WRPLZNZWIPRAAGIRHELVPISAEPADVHLGLAWLAVGSMCLFIAGFAVGWG
PIPWLLMSEIFPLHIKGVATGVCVLTNWFMAFLVTKEFNSIMEILRPYGAFWLT
AAFCILSVLFTLTFVPETKGRTLEQITAHLRDGDGPLSVTGSPELSWLRVSKGVE
WPQ

FIG. 12

MOUSE GLUTx nucleic acid sequence (282)

GAGCCTGCTGATGTTCACCTGGGGCTGGCCTGGCTGGCTGTAGGCAGCATGTGC
CTCTTCATCGCTGGTTTTGCAGTAGGCTGGGGACCCATCCCCTGGCTCCTCATGT
CAGAGATCTTCCCTCTGCACATCAAGGGTGTGGCTACCGGCGTCTGTGTCCTCAC
CAACTGGTTCATGGCCTTTCTGGTGACCAAAGAGTTTAACAGCATCATGGAGATC
CTCAGACCCTACGGCGCCTTCTGGCTCACCGCTGCCTTCTGTATCCTCAGCGTCC
TTTTCACG

83648.1

FIG. 13

MOUSE GLUTx amino acid sequence (94)

EPADVHLGLAWLAVGSMCLFIAGFAVGWGPIPWLLMSEIFPLHIKGVATGVCVLTN
WFMAFLVTKEFNSIMEILRPYGAFWLTAAFCILSVLFT

FIG. 14

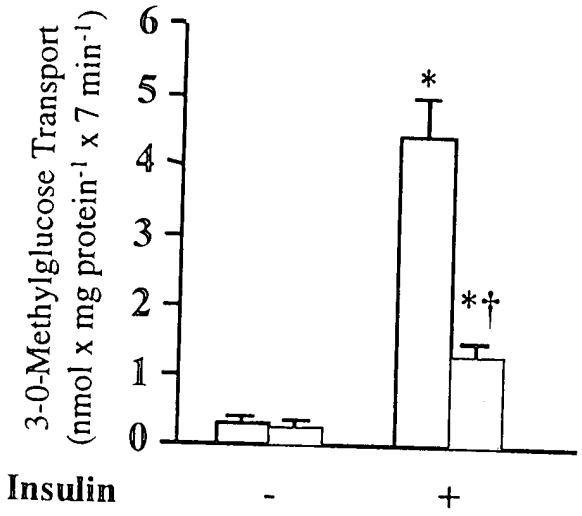

3-0-Methylglucose Transport
(nmol x mg protein^{-1} x 7 min^{-1})
6
5
4
3
2
1
0
*
*†
Insulin
-
+

FIG. 15

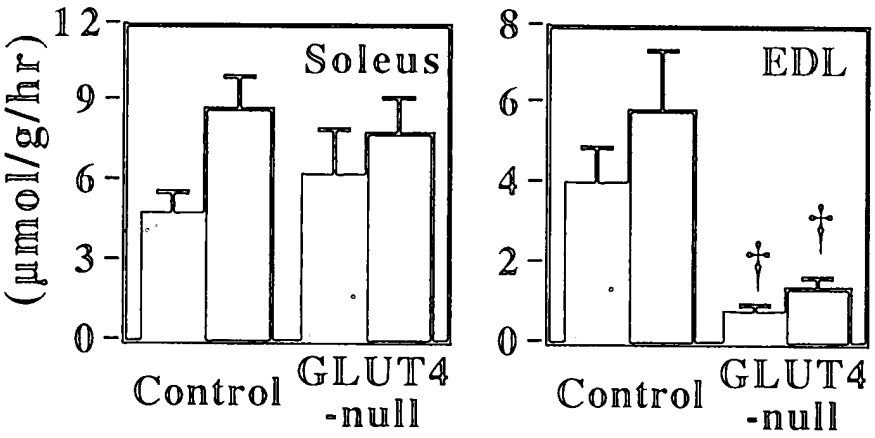

(μmol/g/hr)
12
9
6
3
0
Soleus
Control
GLUT4
-null
8
6
4
2
0
EDL
†
†
Control
GLUT4
-null

FIG. 16

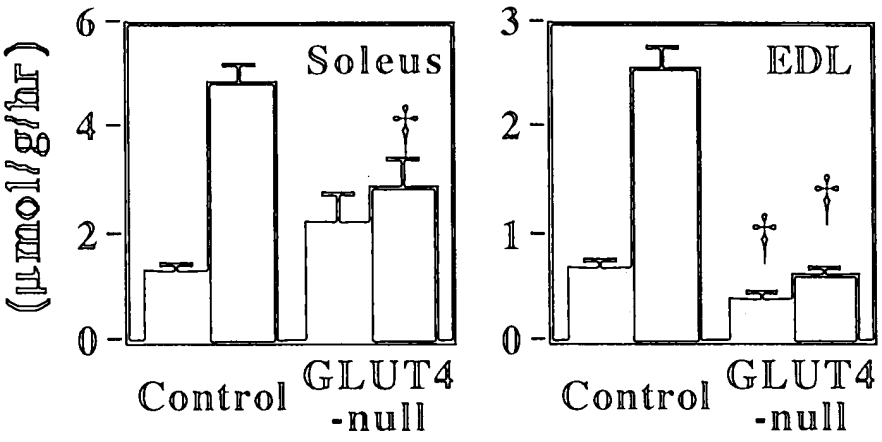

(μmol/g/hr)
6
4
2
0
Soleus
Control
GLUT4
-null
3
2
1
0
EDL
Control
GLUT4
-null

FIG. 17

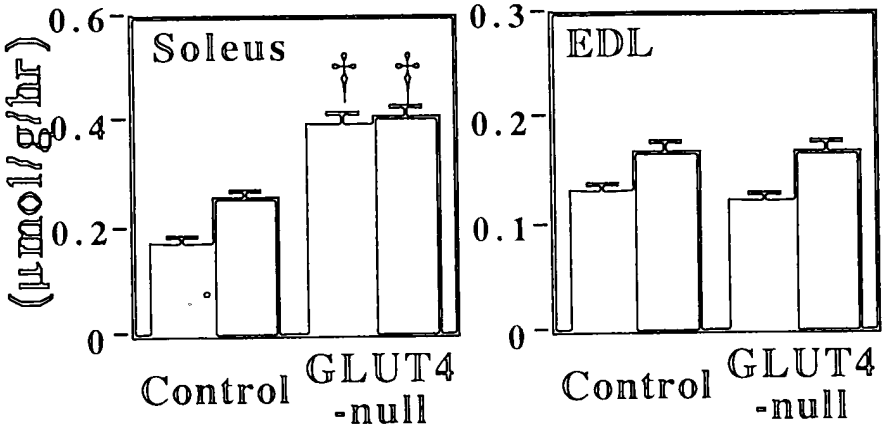

Soleus
EDL
(μmol/g/hr)
0.6
0.4
0.2
0
0.3
0.2
0.1
0
Control
GLUT4
-null
Control
GLUT4
-null

FIG. 18